REMARKS

Presently, claims 114-148 are pending in the application. A Petition for Revival of an Unintentionally Abandoned Application under 37 C.F.R. § 1.137(b) and a Request for Continued Examination ("RCE") under 37 C.F.R. §1.114 are being filed herewith. Claims 91-113 have been canceled. New claims 114-148 have been added to more clearly define and particularly point out the present invention. Support for the features of new claims 114-148 may be found, for example, in canceled claims 91-113 and at page 21, line 12 – page 22, line 10 of the specification. Accordingly, no new matter has been added to the application by the foregoing amendments.

Prior Art Rejection – § 103(a)

The Examiner rejected has rejected claims 91-101 and 107-113 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,177,931 to Alexander *et al.* ("Alexander") in view of U.S. Patent No. 6,160,570 to Sitnik ("Sitnik"). The Examiner contends that Alexander teaches all aspects of Applicants' invention, with the exception of associating program genre to income level and program genre to gender. The Examiner further contends that Sitnik teaches these features, and concludes that it would have been obvious to one of ordinary skill in the art to modify Alexander's system to include the collection of demographic information, including sex or gender and income level, as taught by Sitnik to result in Applicants' claimed invention. Applicants strenuously, but respectfully, traverse this rejection.

Initially, Applicants point out that on page 5 of the Final Office Action, in reference to Applicants' arguments regarding "heuristic rules", the Examiner contends that, "[T]his technique is already disclosed within the related arts so many times and repeatedly used within the interactive program guide EPG or IPG system for years." Such a statement is tantamount to taking Official Notice that Applicants' invention is well-known in the art. Since there is no reference that the Examiner relies on to support this assertion, in making such a statement, the Examiner has, *de facto*, taken Official Notice that Applicants' claimed application of heuristic rules is well known in the art. However, Applicants disagree that there are "facts outside of the record which are

capable of instant and unquestionable demonstration as being 'well-known' in the art," as required by M.P.E.P. §2144.03, which would support an Examiner's finding of Official Notice. Therefore, to the extent that the Examiner's assertion is tantamount to Official Notice of what is well-known in the art of heuristic rules, Applicants respectfully traverse the Examiner's taking of Official Notice, and respectfully request that the Examiner support the taking of Official Notice by producing a relevant reference in support of this position, and furthermore, that the Examiner identify a specific teaching in the reference to support a combination with Alexander and/or Sitnik.

Alexander teaches improvements to electronic program guides ("EPGs"), including viewer interaction capabilities, opportunities for advertisers to reach viewers and creating of viewer profiles. Alexander's system allows the viewer to interact with the EPG, including selecting programming (including advertisements) for viewing and/or recording. The user may also interact with the EPG by scrolling through the listings which are not displayed on the initial screen. The EPG in Alexander collects information about the viewer, either by obtaining the requested information directly from viewer input or by learning the desired information by recording the viewer's "actions and circumstances surrounding those actions" with the EPG (see column 28, lines 30-59 of Alexander). The information that the EPG records includes instructions provided to the EPG (e.g., a channel change) as well as the time that that change was instructed and the programming switched to and from as a result of the change. The EPG also records the absence of user interaction. Alexander teaches that a "viewer profile analysis program" performs a "simple statistical analysis" of the collected data and, combined with the viewer's profile information, develops "viewer characteristics" (see column 29, lines 30-60 of Alexander). The profile analysis program also compares one viewer profile to other viewer profiles to further aid in displaying similar content to similar viewers. Alexander then uses the viewer characteristics to customize the EPG, so that the viewer is presented with programming and/or advertisements that are likely to be of interest, both in terms of content and order of display. Alexander also teaches that the EPG may display advertisements based on specific programming that the viewer is currently watching or that certain advertisements may be assigned to particular "classes" of programming.

Applicants strenuously disagree with the Examiner's assertion that Alexander teaches "heuristic rules." At no point does Alexander discuss "heuristic" rules. Although Alexander discloses that, with sufficient data, the EPG could characterize different parameters about a viewer (e.g., chronological age, activity age, kids) there is no indication how these parameters are determined. That is, there is nothing that suggests that these parameters are determined by applying heuristic rules. Rather, Alexander suggests the derivation of demographics using other means that are not heuristic rules, such as triggers, single transactions and/or complex formulas. The use of heuristic rules cannot be inferred through the use of such methods. Applicants' acknowledge that Alexander utilizes a "Profile Program" that "performs multiple levels of sophisticated analysis and learning involving numerous comparisons…to develop of multi-dimensional profile of the viewer" (see column 30, lines 1-7). The data used by the Profile Program is based on a "simple statistical analysis" and "basic viewer profile data". However, Alexander's discussion of the Profile Program and the various data points that are utilized therein does not disclose, teach or suggest the use of "heuristic rules". On the contrary, Alexander teaches that the Profile Program "'learns' to recognize a finer breakdown about the various types of data collected and then uses the learned information to describe a 'Viewer Preference'" (see column 29, lines 56-60). Alexander then provides an example of such "learning", in which the Profile Program determines whether a viewer is a fan of a particular team based on teams involved in the sports programs that the viewer watches. Such an application by the Profile Program teaches a direct mapping of the viewer profile data to an output, but does <u>not</u> teach the use of heuristic rules.

Moreover, the Examiner mischaracterizes the teachings of Alexander in asserting that Alexander teaches Applicants' claimed invention. In particular, in the paragraph bridging pages 2-3 of the Advisory Action, the Examiner argues that Alexander's ability to record viewer interactions "is a ***strong and valid proof*** that the Alexander's system is monitoring the user or viewer's habits or actions for gathering or generating the viewer profile, which exactly equivalent to as '***heuristic rules…***'" [sic] (emphasis added). Applicants respectfully submit that Alexander's collection of viewer profile data does not ***prove*** anything about <u>heuristic rules</u>, and especially that Alexander uses heuristic rules, or that monitoring the viewer's actions is ***equivalent to*** the use of <u>heuristic rules</u>.

Applicants respectfully submit that such assertions by the Examiner are logically incorrect, as there is no teaching or suggestion whatsoever in Alexander that Alexander's Profile Program employs heuristic rules.

Sitnik teaches a digital television system that stores a user profile containing information about the user, including the user's viewing habits, program preferences, generic information (e.g., telephone, location), and demographic information (e.g., age, sex, income and location). In Sitnik's system, two or more alternative images are transmitted to the local display device. One of these images is selected for display based at least in part on the user's profile. Sitnik also teaches an editing module that receives or compiles the user profile. The profile may be compiled by a local processor that monitors programming displayed on the digital television

Applicants' invention includes monitoring viewer interactions with a multimedia device and then creating a viewing record based on those interactions. For example, the present invention may monitor rate of channel change and time of day that those channel changes occurred. Such information is recorded in the viewing record. Heuristic rules are applied to the viewing record, such that a probabilistic measure of a gender or income is assigned to the associated viewing record of viewer. Finally, based on the assigned probabilistic measure, Applicants' invention infers the gender or income level of the viewer. Thus, if the Applicants' method monitored a total of seven channel changes within a period of two minutes, what those channels were and the time of day that those channel changes occurred, the heuristic rules might assign a probability of 65% that the viewer is male. Accordingly, the inventive method might then infer that the viewer is, in fact, male.

New independent claim 114 recites:

> In a video network, a computer-implemented method of inferring the gender of a viewer, the method comprising:
>
> (a) monitoring viewer interactions with a multimedia device to create a viewing record;

      (b) <u>applying one or more heuristic rules</u> to the viewing record, wherein the heuristic rules assign <u>a probabilistic measure of gender</u> based on one or more aspects of the viewing record; and

      (c) <u>inferring the gender of the viewer</u> based on the probabilistic measure. (emphasis added)

As discussed above, Alexander does not teach or suggest the use of heuristic rules. Thus, Alexander does not teach or suggest "applying one or more heuristic rules" to a viewing record, as recited in independent claim 114. Furthermore, even assuming *arguendo* that Alexander does teach heuristic rules, Alexander still does not teach or suggest any rules (heuristic or otherwise) that assign "a probabilistic measure of gender" based on the viewing record. That is, although Alexander teaches that a viewer's preferences or profile may be compared to profiles of other viewers, Alexander's system does not apply rules to one or more viewers to arrive at a probabilistic conclusion about characteristics of those viewers. In Alexander, the Profile Program simply analyzes data about one viewer's interactions with the EPG and draws direct conclusions about that viewer's preferences. Moreover, as the Examiner admits, Alexander does not teach or suggest anything related to viewer characteristics of gender or income. Although Alexander's Profile Program determines a viewer's preferences and demographic information about the viewer based on observed interactions of that viewer, Alexander does not at all infer the viewer's gender. Thus, Alexander also does not teach or suggest "inferring the gender of the viewer based on the probabilistic measure." Accordingly, Alexander does not disclose all of the features of new independent claim 114. Thus, independent claim 114 is believed to be allowable over Alexander.

Sitnik does also not each or suggest all of the elements of Applicants' claimed invention. Sitnik does not teach or suggest the use of heuristic rules, and therefore, does not teach or suggest "applying one or more heuristic rules" to a viewing record, as recited in independent claim 114. In Sitnik, a user profile may be compiled by a local processor. However, Sitnik does not disclose that heuristic rules are used to generate any of the information contained in the profile, including any demographic information contained therein. Based on the prosecution history of the present application, the Examiner does not appear to dispute this position. Furthermore, Sitnik does not teach or suggest any

rules (heuristic or otherwise) that assign "a probabilistic measure of gender" based on the viewing record. Moreover, although Sitnik teaches compiling a user's profile (which may include demographic information about the user) based on observed interactions of user, Sitnik does not teach or suggest "inferring the viewer's gender." In fact, Sitnik teaches that the processor might compile the user preferences and/or viewing habits based on monitored information, but that the demographic information is obtained using an on-screen questionnaire. Thus, there is no teaching or suggestion in Sitnik that any demographic data (such as gender or income) in the user profile would be generated by an application of heuristic rules or that such demographic data is "inferred" based on a probabilistic measure.

The Examiner relies on Sitnik for teaching the feature of "collecting viewer profiles further including the user's sex or gender, the yearly income level, personal preferences and personal habits" (see pages 6-7 of the Final Office Action, *citing* col. 1, line 58 to col. 2, line 4; col. 7, lines 40-57; and col. 8, line 33 – col. 9, line 4 of Sitnik; *see also* page 3 of the Advisory Action). However, the feature of collecting profiles that include gender and income is not recited in claim 114. Rather, as previously discussed, independent claim 114 recites the application of heuristic rules that "assign a probabilistic measure of gender based on the viewing record." Thus, in claim 114, data related to gender and/or income is <u>not collected</u> as in Sitnik. Rather, in Applicants' claimed invention such characteristics are *inferred* based on the heuristic rules. Accordingly, Sitnik does not disclose all of the features of new independent claim 114. Thus, independent claim 114 is believed to be allowable over Sitnik.

Not only do Alexander and Sitnik not individually teach or suggest independent claim 114, but, even if such references are properly combinable, such a combination still does not teach or suggest Applicants' invention. That is, Sitnik does not disclose the features that are absent from Alexander (e.g., heuristic rules and inferring gender based on those rules). Specifically, the combination of Alexander and Sitnik still lacks at least the feature of applying heuristic rules that assign a probabilistic measure of gender as recited in claim 114. Furthermore, if the teachings of Sitnik were incorporated into Alexander's system as suggested by the Examiner, the resulting system would not infer any demographic information. That is, the demographic data (such as gender and

income) in a combined system would be *collected* directly from a source (e.g., the user) and not *inferred*, since that is how Sitnik teaches that demographic data is obtained. Thus, the combined teaching still would not result in Applicants' invention. The Examiner suggests that the teachings of Sitnik are relied on only to illustrate that gender and income are "simply additional/or other attributes in the monitoring the viewer's habits or actions/interactions in defining or predicting the demographic characteristics..." (see page 3 of the Advisory Action). Thus, the Examiner appears to acknowledge, and Applicants would agree, that Alexander already teaches that some portions of demographic data may be collected and/or obtained directly from the viewer. That is, Alexander already teaches a system or step of demographic data collection, and only utilizes the Profile Program to deduce information about the viewer that is not provided to the system. Accordingly, the teachings of Sitnik simply add to the list of data types that may be collected. However, as discussed, Applicants do not claim the collection or monitoring of any demographic data. Accordingly, it remains that the combination of Alexander and Sitnik does not result in a teaching of inferring the gender of a viewer based on a probabilistic measure obtained through the application of heuristic rules.

For at least the reasons discussed above, Applicants respectfully submit that the Examiner has presented a *prima facie* case of obviousness, since none of the cited references, taken alone or in combination, teach or suggest the invention of independent claim 114. Accordingly, independent claim 114 is allowable over the combination of Alexander and Sitnik.

New independent claim 121 recites "applying one or more heuristic rules to the viewing record, wherein the heuristic rules assign a probabilistic measure of gender based on the viewing record." Similarly, new independent claim 128 recites "applying one or more heuristic rules to the viewing record, wherein the heuristic rules assign a probabilistic measure of gender based on the number of channel changes in the timer period." Claims 121 and 128 both also recite "inferring the gender of the viewer based on the probabilistic measure." For the same reasons discussed above with respect to independent claim 114, Applicants respectfully submit that Alexander and Sitnik, taken either alone or in combination, do not teach or suggest the invention of independent

claims 121 and 128. Accordingly, independent claims 121 and 128 are allowable over the combination of Alexander and Sitnik.

New independent claims 132, 139 and 145 each recite similar steps as independent claims 114, 121 and 128, respectively. However, independent claims 132, 139 and 145 recite the steps of "applying heuristic rules that assign a probabilistic measure of income...; and inferring the income of the subscriber based on the probabilistic measure." All of the arguments and distinctions over Alexander and Sitnik with respect to "gender" are applicable to "income". Thus, for the same reasons discussed above with respect to independent claim 114, Applicants respectfully submit that Alexander and Sitnik, taken alone or in combination, do not teach or suggest the invention of independent claims 132, 139 and 145. Accordingly, independent claims 132, 139 and 145 are allowable over the combination of Alexander and Sitnik.

Dependent claims 115-120, 122-127, 129-131, 133-138, 140-144 and 146-148 are allowable at least by their dependency on independent claims 114, 121, 128, 132, 139 and 145, respectively. Claims 91-101 and 107-113 have been canceled. Reconsideration and withdrawal of the Examiner's §103(a) rejection are respectfully requested.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully submit that the Examiner's rejection has been overcome, and that the application, including claims 114-148, is in condition for allowance. Reconsideration and withdrawal of the Examiner's rejection and an early Notice of Allowance are respectfully requested.

Respectfully submitted,

Date: *April 28, 2005*   By: *Charles A. Eldering*
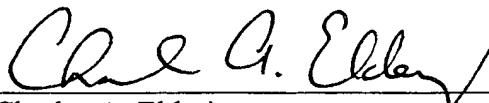
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